

Amendments to the Specification:

Please delete paragraph 0010.

Please amend paragraph 0011 as follows:

[0011] ~~Figure 5~~ **Figure 4** shows the use of alpha-1-anti-trypsin antibodies to screen for high-titer antibody producer strains. Supernatant was isolated from H6 parental (lane 1); H34 over-producer strains (lane 2); or H6 high titer producer cells expressing anti-AAT and anti-EMAP and probed for anti-alpha-1-anti-trypsin. As shown by arrow, a robust extracellular production of alpha-1-anti-trypsin is observed in the low antibody producer line while very little is present in supernatants of high producer strains.

Please amend paragraph 0074 follows:

[0074] Combinations of antisense AAT and EMAPI vectors were transfected into the parental H6 cell using polyliposomes as suggested by the manufacturer (Gibco/BRL) and stable lines were selected for using 0.5 mg/ml of hygromycinB and the neomycin analog G418. After two weeks of selection, stable clones were derived, expanded and analyzed for sense or antisense gene expression using northern and RT-PCR analysis. Positive clones expressing each vector were then expanded and tested for antibody production using ELISA analysis as described in EXAMPLE 2. Briefly, stable lines or controls were plated at 50,000 cells in 0.2 mls of growth medium per well in triplicates in 96 well microtiter dishes. Cells were incubated at 37°C in 5%CO₂ for 5 days and 50 uls of supernatant was assayed for antibody production. ~~Figure 4A shows that~~ H6 cells expressing the antisense AAT and EMAPI ~~produce~~ produced enhanced levels of antibody in contrast to parental control or H6 cells expressing sense AAT and EMAP1. Conversely, H34 cells (expressing enhanced antibody levels) expressing sense AAT and EMAPI were found to have suppressed antibody production in contrast to H6 parental expressing sense AAT and EMAPI (TABLE 2). These data demonstrate the involvement of AAT and EMAPI in regulating antibody production. Moreover, these data teach us of the use of modulating the expression or function of each of

these genes for enhancing or suppressing antibody production for use in developing high titer protein manufacturing strains as well as their use in treating immunological disorders involving hyper or hypo immunoglobulin production.

TABLE 2. Antisense suppression of AAT and EMAPI results in enhanced antibody production in H6 cells. Restored AAT and EMAPI expression in H34 over-producer cells results in suppressed antibody production.

Cell Line	Antibody (ug/ml)
H6	13134 +/- 992
H6 AS AAT/EMAP	29138 +/- 880
H34	38452 +/- 1045
H34 sense AAT/EMAP	14421 +/- 726